

Notice of Allowability

Application No.

10/521,470

Examiner

PHUC T. DANG

Applicant(s)

SHIMADA ET AL.

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to election filed on August 10, 2006.
2. ☒ The allowed claim(s) is/are 1, 3-6, 8-23, 31-52 and 54-57 (renumbered as in new claims 1-47).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 011805, 041805, 061406, 081006 &
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material 091906
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

PHUC T DANG
Primary Examiner
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DETAILED ACTION

Examiner's Amendment

1. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the Issue Fee.

Authorization for this Examiner's Amendment was given in the telephone interview with William I. Solomon on September 20, 2006 as follows:

2. Claims 53 and 58-61 have been canceled.

Claims 1, 3-6, 8-23, 31-52 and 54-57 are currently pending in the application.

Examiner's Statement of Reasons for Allowance

3. Claims 1, 3-6, 8-23, 31-52 and 54-57 are allowed.
4. The following is an examiner's statement of reasons for allowance:

With respect to claim 1, the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a multilayer wiring board comprising a plurality of insulating layers, a plurality of conductive layers, a conductive non-through hole for electrically connecting the plurality of conductive layers to each other, and a capacitor produced by forming electrodes on upper and lower surfaces of at least one insulating layer containing a high-dielectric material, wherein the capacitor is in an arbitrary layer except for a core layer and a layer structure is symmetrical, a warpage is $4.0 \times 10^{-4} \text{mm}^{-1}$ or less in curvature at a room temperature, and a

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hardened material of the high-dielectric material has a specific inductive capacity ranging from 20 to 100 at 25°C, 1MHz and a thickness ranging from 0.1 to 30 μm.

With respect to claim 4, the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a multilayer wiring board comprising a plurality of insulating layers, a plurality of conductive layers, a conductive non-through hole for electrically connecting the plurality of conductive layers to each other, and a capacitor produced by forming electrodes on upper and lower surfaces of at least one insulating layer containing a high-dielectric material, wherein an insulating material different from the high-dielectric material is filled in a recessed portion between conductive patterns including the electrodes, and the surfaces of the conductive patterns and the surface of the filled insulating material are planarized.

With respect to claim 6, the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a multilayer wiring board comprising a plurality of insulating layers, a plurality of conductive layers, a conductive hole for electrically connecting the plurality of conductive layers to each other, and a capacitor comprising at least one of the insulating layers containing a high-dielectric material having a specific inductive capacity ranging from 20 to 100 at 25°C, 1MHz and produced by forming electrodes on upper and lower surfaces of the insulating layer, wherein at least one side of the counter electrodes has a thickness ranging from 1 to 18 μm and is arranged inside an outer periphery of the electrode opposing the electrode having the thickness.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submission should be clearly labeled "Comments on Statement of Reasons for Allowance".

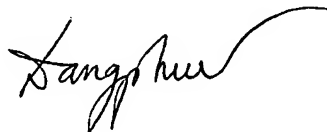
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuc T. Dang whose telephone number is (571) 272-1776. The examiner can normally be reached on 8:00 am-5:00 pm.

7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey O Minsun can be reached on (571) 272-1835. The fax phone numbers for the organization

where this application or proceeding is assigned are 571-273-8300 for regular communications and After Final communications.

8. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Phuc T. Dang



Primary Examiner

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